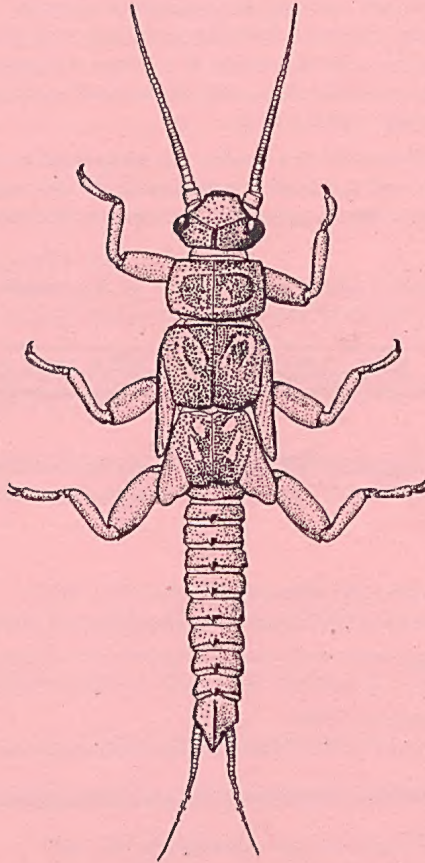


ASL

Australian Society
for Limnology Inc.



NEWSLETTER

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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. The ASL was established in 1961, and has a current membership of over 630 researchers, managers, engineers, teachers and tertiary level students from all states and territories. Members have a strong professional interest in inland aquatic issues, including the maintenance of biodiversity, the maintenance and/or restoration of water quality, and the wise use of aquatic resources. The Society also has a strong interest in fostering the scientific and intellectual development of tertiary students.

The Society includes members working in government agencies, tertiary institutions and many industries related to aquatic resources. Through their daily activities, members have contact with local communities and are in a sound position to interpret and advise on inland water issues. The Society has a substantial knowledge base, and has assumed a responsibility to ensure that this is available to those who manage inland waters.

Accordingly, the charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. In this manner we will contribute to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

EXECUTIVE OFFICERS 1998-1999

President

Dr Pierre Horwitz

Centre for Ecosystem Management, Edith Cowan University, Joondalup, WA 6027.

Ph: 08-9400 5558, Fax 08-9400 5717 Email: p.horwitz@cowan.edu.au;

Vice-President

Dr Jane Chambers

Environmental Science, Murdoch University, Murdoch WA 6150

Ph: 08-9360 2739 Fax: 08-9310 4997 Email: chambers@essun1.murdoch.edu.au

Immediate Past President

Dr Max Finlayson

ERISS, Locked Bag 2, Jabiru, NT 0886

Ph: 08-8979 9756 Fax: 08-8979 2149 Email: maxf@eriss.erin.gov.au

Secretary

Dr Richard Marchant

Museum of Victoria, 71 Victoria Crescent, Abbotsford, VIC 3067.

Ph: 03-9284 0218. Fax 03-9416 0475. Email: rmarch@mov.vic.gov.au.

Treasurer/Membership Officer

Mrs Margaret Hart

22 Netherby Avenue, Wheelers Hill, VIC, 3150.

Ph: 03-9545 3549. Fax: 03-9545 3549 Email m.hart@sci.monash.edu.au

Membership Information and a list of the Regional Executive Officers can be found at the back of this Newsletter

Front cover illustration of *Riekoperla montana* (Plecoptera: Gripopterygidae) by **Edward Tsyrlin**.

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Material for publication in the Volume 38 #1 Issue of the Newsletter should be sent to the Editor (see back pages) by 29th February 2000.

All articles should be forwarded, if possible, as unformatted text on a disk or via email.

ASL Home Page (for those of you who missed it - **NEW ADDRESS!**)

<http://www.asl.org.au/>

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EDITORIAL

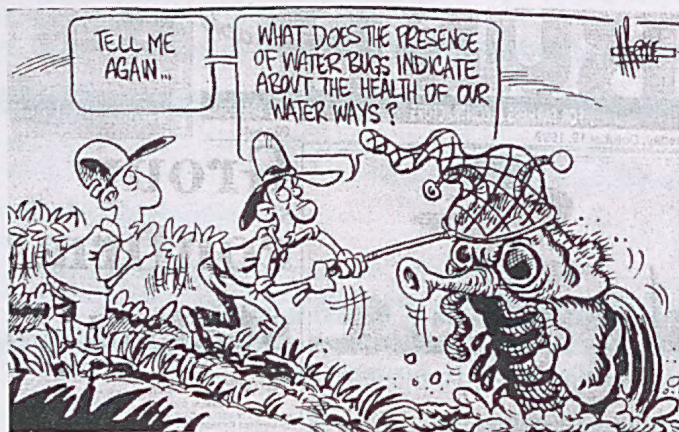
Well it's time for the millenium and its bugs, super viruses, end of the world etc. Well find out by the next issue if we made it through.

This issue sees an absence of our foreign correspondent due to his holiday, recent conference appearance in New Zealand and workload. Despite the time of year (i.e. seasonally adjusted figures) we have a fair contribution to the Gunjingan (Gossip) section. There is even stuff from a group that has never corresponded to the Newsletter before.

Several interesting articles appear including some details of some limnological projects about the place and the new draft of the ASL seven deadly sins is included. The FASTS section describes a recent meeting between a pond of limnoes and a liar of politicians. It sounds like it went well according to the media but I would like to see a report from one of the limnologists who showed up.

There are three announcements for workshops and some new hardware/software. The bibliography has gone forever, cause it was a bit of a joke calling it a bibliography, but ASL member publications will still be put in (under that heading) whenever we get stuff. The trouble is that Russ Shiel (Congrats Russ on the Jolly Award) tends to collect papers in his area of expertise (zooplankton). So unless you want to continually know all about the recent zooplankton literature please forward your paper details to Russ.

Hopefully this issue will have been delivered before Christmas and/or New Year so all the best to you all.



PRESIDENT'S REPORT

The last few weeks have seen some significant events for the society - including two firsts - the first formal joint congress between the New Zealand Limnological Society and the ASL, and the inaugural presentation of the Australian Society for Limnology Medal.

The joint congress was very well attended with over 300 registrants, almost half of which were ASL members; the turn out thrilled organisers and I received many comments from our New Zealand colleagues congratulating us for our attendance. I'm happy to pass this on - we had a large contingent of postgraduate students contributing their work to the conference programme. But the bouquets should go to the organisers themselves, Ian Boothroyd and the team; they made us feel welcome at all times, were helpful when we were lost, tired or in need of powerpoint, alcohol, food, transport etc., and basically freed us from the stresses of congress running so that we could enjoy the event. The organisers have set a high standard for joint congresses and we would do well to emulate their efforts in 2003 when it will be ASL's turn!

About 50 members attended the AGM where I was able to report on some positive developments within the society. In particular I conveyed Margaret Hart's information that the overall membership of the Society stands at 636, an increase over the last 18 months (since the last AGM). I also conveyed details of the web site from Simon Josey (who reported that the web site had received an average of over 90 hits per day for the first five months of its operation). The AGM also ratified the "no name change" recommendation resulting from the informal ballot held in the middle of this year. Minutes of the AGM will be available shortly (via Newsletter and website: www.asl.org.au).

The Inaugural Presentation of the Australian Society for Limnology Medal - awarded to Dr Russell Shiel

The ASL Medal Committee (appointed to review nominations and make recommendations to the Executive) met to consider the nomination of Dr Russell Shiel (Cooperative Research Centre for Freshwater Ecology, Murray Darling Freshwater Research Centre) for the inaugural ASL Medal. The Medal continues in the tradition of the Jolly Award, ASL's former limnological award. The nomination of Dr Shiel was received on 22nd July 1999, made for the categories of Research Excellence and Education/Communication Excellence in Australian limnology. The Executive accepted the committee's recommendation and citation:

"The committee was of the unanimous opinion that Dr Shiel has made a sustained and significant contribution to the knowledge of microfauna of Australian inland waters, principally through taxonomic and ecological research on rotifers and cladocerans. In doing so Dr Shiel has ensured that the particularities of the Australian aquatic microfauna are recognised in the international community, and that the significant differences of the Australian microfauna are valued regionally. The Committee is of the opinion that Dr Shiel has shown leadership to the Australian limnological community through his demonstrated commitment to taxonomy, and in the generous way he assists other researchers, with a concern for outcomes rather than personal recognition."

Dr Shiel received the award at the Joint Limnology Congress in New Zealand where he presented the Hilary Jolly Memorial Lecture. A medal has been designed and is currently in the process of being struck, and suitably inscribed, after which it will be sent to Dr Shiel. I am sure that the membership of the ASL will join with me in congratulating Russ on this award.

All that remains is for me to wish you a very happy festive season, with the sincere hope that you enter the new year:

- a) without severely dysfunctional electrical appliances, and
- b) with a renewed optimism for the condition of Australian inland waters.

Cheers

Pierre Horwitz

7th December 1999

GUNJINGAN

ERISS - MINING IMPACT AND MINE EXPLORATION

A welcome to **Frederick Bouckaert**, formerly of Ecowise Environmental, ACT, who takes up a position as macroinvertebrate specialist with ERISS' Biological Monitoring team. Projects currently underway or completed in the biological monitoring program include:

- * Monitoring and assessing the effects of increased suspended solids loads on macroinvertebrate communities in Swift Ck downstream of the Jabiluka mine site. This project was conducted in the 1998-99 wet season by Honours student, **Gael Davidson**, in collaboration with ERA and NTU.
- * Ongoing baseline data collection in the Jabiluka streams, using macroinvertebrate and fish communities.
- * Ongoing monitoring in Magela Ck and control streams in association with the Ranger mine, using macroinvertebrate and fish communities.
- * With the Northern Lands Council, advising traditional owners in Arnhem Land of baseline data that should be gathered from those places in their country where mining exploration is underway. Some preliminary surveys by ERISS have been undertaken.
- * Australian & New Zealand Guidelines for Fresh and Marine Water Quality. The ongoing saga with the revision of the Australian & New Zealand Guidelines for Fresh and Marine Water Quality: Where were we ... Well the 3-month Public Comment period ended in late October (1999). **Chris Humphrey** and **Rick van Dam** of ERISS compiled the 85 submissions and organised a workshop of Guidelines' authors in Sydney in early November to consider the comments and make their recommendations. The main concerns arising from the submissions appeared to be: the need for a more user-friendly working document with less technical detail; the need to regionalise 'trigger values' for physical and chemical stressors in order to make them more relevant to the different states and regions of Australia and New Zealand; and the need to relax some very stringent toxicant values. Authors will be working with government and water industry staff over the next few months to finalise (yes!) the Guidelines.

From **Chris Humphrey**

ERISS WETLAND PROGRAM

Bob Pidgeon and **Ben Bayliss** are in the midst of analysing results of the fish sampling component of the NWP study on impacts of Paragrass on wetland ecology conducted in collaboration with PAN, NTU, GriffithU and UWA. The sampling dense vegetation for this project involved trialling a range of methods with mixed success. The use of multipanel gill nets in channels cut in the vegetation was the most effective procedure but was, as usual with gill nets, biased against the smaller species. In desperation **Bob** recently attended the electrofishing workshop

conducted by NSW Fisheries in the search for crocodile safe sampling methods for fish, especially smaller species, in densely vegetated wetlands. There was no magic solution offered from the collective experience of the many people at the course, but enough expressions of confidence in the method to make it worth exploring seriously. He is hoping to test drive some equipment in this situation in the new year.

As a pre Xmas gift to themselves **Abbie Spiers, Ann Bull, Max Finlayson** and **Bob Pidgeon** are trying to finish a long overdue report for WWF on mine management and impacts on wetlands for 11 mines in tropical Oceania. The report is to assist WWF in focussing effort in their Tropical Wetlands of Oceania which aims to improve the management and conservation of wetlands by local communities.

As part of our international activities **Max Finlayson** has recently been accepted as a member of the Council of Wetlands International-Asia/Pacific and attended a meeting in Kuala Lumpur. This addressed program development ideas and included a proposal to undertake an Asian-wide wetland inventory using the newly developed inventory protocols prepared with funding from the Environment Australia Wetland program. The Japanese Environment Agency has given initial funding to develop the proposal. Wetlands International is also seeking comment on the proposal from the Standing Committee and Scientific and Technical Panel of the Ramsar Wetlands Convention. It is anticipated that this inventory will provide core data for use by national agencies and international conventions, such as Ramsar, Biological Diversity (CBD), Migratory Species (CMS) and Climate Change (UNFCCC).

The meeting in KL followed hot on the heels of a UNEP sponsored workshop in Montpellier, France to assess the usefulness of indicators for conservation and sustainable use of aquatic/coastal/marine habitats. In particular they were keen to investigate the use of early warning indicators as per those discussed during the Ramsar conference in May 1999 (see www.ramsar.org) and covered in a report by **Rick van Dam, Max Finlayson** and **Chris Humphrey** (available from ERISS). Interestingly, the use of macroinvertebrates received little air-time; assumedly as it is so well accepted nowadays.

The Ramsar Scientific and Technical Panel meeting in September in Gland, Switzerland also attracted **Max's** attention with a commitment to further address issues related to wetland inventory, alien species, environmental flows and climate change. The latter will also be developed by participation in the Intergovernmental Panel on Climate Change (IPCC) process to produce its Third Assessment Report, in Canberra early in Dec. **Max** also detoured to Uganda after the Ramsar meeting to participate in a review of the 10 year old national wetland program. This is a remarkable program and contains many lessons and protocols that rival (exceed) efforts to establish similar programs elsewhere.

Abbie Spiers participated in the Wetland Care organised conference in Canberra and presented a paper on wetlands and eco-tourism with a case study from Kakadu. This was done with **Terry Reece** from the Cooinda based Yellow Waters tour. **Abbie, Ann Bull** and **Max** are also working on the data collected from local community-linked monitoring programs at three sites in or near Kakadu. These have involved vegetation, birds and water depth surveys. **Abbie** has also distributed copies of our recent reports on wetlands in Arnhem Land, done in cooperation with **Dean Yibarbuk** from the Bawinanga Aboriginal Corporation and **Michael Storrs** and **Peter Cooke** from the Northern Land Council.

Rick van Dam is also spreading the ERISS "wetland message" overseas with attendance at an ecotox conference in Bangkok whilst completing reports on ecotox tests, risk assessments of *Mimosa pigra*, and vulnerability assessments of Asian wetlands to climate change.

And we welcome **George Begg** from Perth to the ERISS wetland team as a wetland ecologist. **George** will assist **Bob** and **Rick** develop a refocused wetland program under our commitment to the National Centre for Tropical Wetland Research (nctwr). A formal agreement between ERISS, NTU, JCU & UWA is being signed to establish this Centre with a focus on research, training and communication.

And we wish everyone a limnologically happy millenium year, whether the latter starts or ends in the year 2000.

From **Max Finlayson**

CENTRE FOR CATCHMENT AND IN-STREAM RESEARCH, GRIFFITH UNIVERSITY, BRISBANE

Heather Proctor is greatly relieved to be finished collecting samples for her study of how the diversity of aquatic mites compares to that of other stream-dwelling invertebrates. Unfortunately, the tedious job of disentangling chironomids from algae remains. **Natasha Witting** (supervised by **Heather Proctor** and **Stuart Bunn**) has submitted her Honours thesis on how disturbance, landuse and riparian attributes correlate with stream invertebrate diversity. Perhaps due to excessive inhalation of alcohol fumes, **Natasha** has expressed eagerness at the prospect of sorting **Proctor's** algae-ridden samples.

El Supremo, oops, I mean "Professor," **Stuart Bunn** is now a director on the LWRDC board, not to mention a more caring and sharing sort of chap since the completion of his CSIRO/BHERT management course. Mind you they could have cleaned up his driving skills while they were re-shaping him. **Stuart, Peter Davies (UWA), Neil Pettit** (Edith Cowan) and **Michelle Winning** spent a couple of weeks getting bogged, breaking windows, spiking tyres etc, whilst travelling around the Northern Murray Darling and Lake Eyre basins. These jaunts were associated with three different projects. One was an ongoing Cooper Creek restoration project. The second as part of an Environment Australia Environmental Flows Initiative Program investigating the importance of flood flows to productivity. The third was a scoping study for CRCFE, which involved the collection of fish, turtles, shrimp and various invertebrates.

Andrea Schmitt and **James Udy** have again been sampling the delights that the Brisbane River Catchment has to offer, as they collect nutrient and sediment data. Their biggest lesson thus far: don't leave light loggers near schools (kids love them.).

From **Stephen Balcombe (Harry)**

NE TABLELANDS AND UNIVERSITY OF NEW ENGLAND

As another year and century draws to a close, a few students heave a sigh of relief at finishing their theses. **Rachael Kellett** has finished her Hons thesis on leaf transport and pooh sticks in the Namoi, and Marcus Finn has completed his work on the effects of weirs in the Macquarie Marshes on invertebrates. Both projects were supported by the DLWC, and helped and co-supervised by various staff. **Jen Moffatt**, funded by the Armidale City Council, showed that their sewage spill remediation procedure had minimal impact on the invertebrates in the urban creek flowing through Armidale. **Paul Butcher**, working on mud crabs in Wooli, has also finished his thesis and is hoping for support for a PhD in the same area. We are too - some of those mudcrabs never made it back for the recapture series...

Andrew Boulton has just finished a pilot study of hyporheic invertebrates and water chemistry in lateral bars and riffles along the Hunter River as part of a DLWC project on potential effects on subsurface processes of one of the flow rules in the river. Surprisingly, at least one of the sites harboured a rich groundwater fauna of blind amphipods and isopods and a syncarid that has **Peter Serov's** eyes sparkling. The subsurface zones of the Hunter appear to be quite active, and strong gradients in N and P occurred along many of the flow paths, implying active filtration in the sediments.

Sue Botting has been working at the CNR unit at UNE with **Marg Brock**, temporarily suspending her PhD work on the Macleay River. PhD students **Sandra Grinter**, **Kim Jenkins** and **Colleen Watts** also progress part-time, and drafts of various chapters have been trickling in to keep **Andrew** busy. **Helena Malawkin's** Master's project on the effects of camphor laurel on invertebrates in leaf packs near Brisbane nears a close while **Sue Powell's** project on biofilms, cosupervised by **Nanda Altavilla**, is readying itself for a summer season of slimes and sun in the Peel River.

A few other projects are in the wings - we shall give you more information next millenium. Meanwhile don't forget that ideal Christmas present of a copy of 'Australian Freshwater Ecology' with a year's subscription to ASL for any budding limno among your friends and family.

From **Andrew Boulton**

BIOLOGICAL MONITORING UNIT, QUEENSLAND DEPARTMENT OF NATURAL RESOURCES

We have now finished the sixth round of sampling for the Queensland component of the First National Assessment of River Health. This went fairly smoothly except for the odd episode of vehicle bogging. Even the helicopter trip over Cape York proved uneventful. The crocs were in hiding! Consequently we're lab bound processing the fruits of our labour.

The department is now a partner in the CRCFE and the new coastal CRC and our involvement in these has kept **Satish Choy** fairly occupied. **Satish** has presented papers at the Water99 congress and the International River Management Symposium that was part of the Brisbane River Festival.

Sandra Grinter, Chris Marshall, Diane Conrick and **Chris Tompson** recently completed reports on the condition of the Burdekin and Mitchell River catchments and contributions to the water allocation management plans (WAMPS) for the Logan and Burnett catchments. **Jon Marshall, Chris Marshall** and **Satish** have also been heavily involved in a recent review of the WAMP process.

Glenn McGregor has been flitting around the state running blue-green algal workshops in the regions. He has also been busy working on contributions for the HAB2000 conference. **Glenn** has trained **Ricci Churchill** as his off-sider and she has processed some of the algal samples in **Glenn's** absence.

Satish and **Sandra** are presenting papers at the ASL conference in New Zealand. The rest of us are jealous. If you see them there say hello!

From Jon Marshall

SCHOOL OF ECOLOGY & ENVIRONMENT, DEAKIN UNIVERSITY, WARRNAMBOOL VICTORIA.

Shanaugh McKay is in the middle of her Honours project on the Gellibrand estuary and wetlands, being supervised by **John Sherwood** and **Belinda Robson**. Initial results show the amazing diversity of the wetlands, even in a dry year. **Shane Smith** has just completed his Honours on anaesthetizing yabbies, showing that electronarcotisation is possible, and is much quicker than using ether or halothane; he was supervised by **Tom McRae**. **Mike Coates** has just begun a project to quantify turbulent mixing in the Hopkins River estuary. **Brad Mitchell**, **Belinda Robson** and **Peter Lind** are continuing their work on the Glenelg-Wimmera river systems, aimed at evaluating the ecological benefits of environmental flows in lowland rivers. This project has just received 2 additional years funding from Dept Natural Resources & Environment, enabling **Peter** to complete a PhD, and this summers drought conditions to be incorporated into the project. **Greg** and **Liz Vinall** left us for greener pastures (Dept. Land & Water Conservation, Albury) some weeks ago, and will be missed by all of us, although we wish them the best of luck.

From **Belinda Robson**

AUSTRALIAN CENTRE FOR TROPICAL FRESHWATER RESEARCH

The year is drawing to a close and the ACTFR remains the scene of much activity - mostly people getting ready to leave! Congratulations firstly go to **Richard Pearson** who became Professor at large in Tropical Biology earlier in the year but thankfully is still known to haunt the corridors of the ACTFR - coincidentally when there is a morning tea. **Jim Tait** has landed the job of Technical Manager-Ecology for the National Land and Water Audit in Canberra and will be spending the New Year acclimatising in preparation for a southern winter (P.S. - blue is not Jim's natural skin colour).

We will sorely miss **Jim's** enthusiasm, resolve and implacable commitment to achieving environmental goals. **Meryl Pierce** has also picked up an academic position at Flinders University but will leave behind rooms still ringing with her South African accent. **Meryl** introduced not only an international flavour to the ACTFR over the last 6 months but also a much improved appreciation of groundwater and surface water interactions. I'm sure she will have plenty of opportunity to ply her trade on the waters of South Australia.

On a brighter note, **Lynda Blunden** is a new appointee, and she is rapidly equipping herself for aquatic life in the tropics. **Lynda** is spending time racing around the streams of north Queensland on a variety of projects (including sampling swimming holes in the wet tropics to assess impacts from swimmers). Surprisingly, we only had 40 applicants for the job.

Andi Cairns continues her work on baseflows from spring fed streams of the Atherton tableland, **Michael Crossland** continues to kill fish and bugs in his mesocosms (assessing oxygen deprivation - a timely and important project given the spates of fish kills in Qld), **Damien Burrows** is busy assessing proposed dams and, in his spare time, the affects of cattle removal from riparian systems, and **Barry Butler** is leading a major review of the ecotoxicology of contaminants used in the sugar industry.

As for the rest of us, work on a variety of projects continues, ranging from the Desert Uplands to the lower Burdekin, and from the rainforests of the Wet Tropics to the waters of Halifax Bay.

From **George Lukacs**

MURRAY-DARLING FRESHWATER RESEARCH CENTRE

(rumour has it there has been a species of chironomid named after the centre - “*mdfrc*”, God knows how you pronounce it – ED)

It's a girl! **Paul Humphries** and **Glenys Atkins** have just produced their 3rd sprog - **Mathilda Irene**, mother and daughter doing well (we're never sure about the father).

Congratulations are extended to **Dr Terry Hillman**, Director of the Murray-Darling Freshwater Research Centre who was awarded the 1999 CRCFE Chairman's Award of Merit, at the CRC for Freshwater Ecology Annual meeting held at Lake Hume Resort on 28 October, 1999. The award acknowledged his distinguished service to the MDFRC and CRCFE in difficult political and financial times.

The citation reads “**Terry's** outstanding achievement in building community support throughout the Murray-Darling Basin is recognised by this award. He has also built strong and productive links with the MDBC and established the MDFRC as a major knowledge provider to the Commission. He has helped lift and focus the scientific work of the Centre, and communicated this to stakeholders”.

During National Water Week, the MDFRC hosted a visit by the Science in the Pub team. Science in the Pub is an initiative of the Australian Science Communicators (NSW) and regular sessions are held in Sydney on the last Wednesday of the month and sessions are also staged around Australia by invitation by various organisations.

The theme of the night was Scales of injustice: feral fish fallacy? - looking at the introduction of feral fish into Australian waters. Is it a problem? Where should the money be going? Stocking our rivers with trout? Trying to eradicate carp? Perhaps we should be harvesting and selling carp flesh. The two presenters for the evening were **Paul Humphries** and **Andrew Sanger** (Senior Fisheries Manager (Inland) with NSW Fisheries). To keep them from coming to blows, we were fortunate to have the scintillating Science in the Pub compere, **Dr Paul Willis** (ABC TV Quantum reporter and Radio Science Broadcaster) to lead the discussion. Paul was aided by **Bernie Hobbs**, from ABC science online and Triple J. If you ever have the chance to go to a ?Science in the Pub? session ? make the time, they are a lot of fun. The presenters had to read their abstracts to a jeering crowd, and are presented in the **ARTICLES** section for your enjoyment.

From **Jane Grows**

RMIT UNIVERSITY, MELBOURNE (VIC)

This is our first contribution to the ASL newsletter. The university earlier this year handed out 18 scholarships to students to conduct research in the Gippsland Lakes region. Of these, 4 students have embarked on PhD's on ecological problems in the Gippsland Lakes and are known forthwith as the Gippsland Research Team (GRT) not to be confused with the GST.

Judith Platt is concentrating her time on the effects of Nodularin on black bream in the Gippsland Lakes under the guidance of **Doug Holdway** and **Leanne Gunthorpe**. **Warren Davies** has been poached from Victoria University (I would like to thank **Paul Boon** for the time there and still have nightmares of my time in Shepparton) to start looking at the effects of the cyanobacteria (*Nodularia spumigena*) on endemic zooplankton in the Lakes. **Lisa Toogood** after finishing an Honours degree in aquaculture at Tassie has joined the team and is looking at the effects of toxicants on the endocrine system and early larval development of the bream, both Warren and Lisa are supervised by **Dayanthi Nugegoda**. **Trevor Ronalds** is also looking at the bream and using condition indices to predict mortality, growth and reproduction performances with **Brian Leonard** as his supervisor.

Of the other freshwater students launching into postgraduate studies **Shahnaz Khan** (**Dayanthi's** student) has started a masters studying the effects of heavy metals on the freshwater yabby whilst **Andrew Harford** is doing a PhD on immunotoxicity work on the Silver Perch under the guidance of **Paul Wright**. **Bill Dixon** finished his Honours at Melbourne Uni and is now busy with his PhD looking at pesticides and microcosms. **Scott Raymond** is also doing some pesticide work with Rainbow fish and Daphnia in his doctorate (both Bill and Scott are Doug's students). **Liliana Zalizniak** is also studying Daphnia and toxicants in her PhD with **Dayanthi** (co-supervised by **Michael Barry** of VUT - yes it's a fair exchange!). Finally, **Carmel Pollino** is nearing the end of her doctorate with **Doug Holdway** looking at Hydrocarbon endocrine disrupters in Rainbow fish.

From **Warren Davies**

Did you know – Droughts currently affecting the east-coast of America are estimated to have caused at least \$800 Million worth of crop losses so far. Nine months ago, however, most of the land was covered with snow. One researcher has had their idea of using snow machines in winter to transform water from rivers or reservoirs into mountains of ice. During spring, the iceberg would be insulated under a special cover so that when water was needed in summer it would be slowly and carefully melted into the reservoir.

FASTS

"SCIENCE MEETS PARLIAMENT" DAY

Australian scientists will descend in numbers on Parliament House in Canberra later this year, but there won't be a white lab coat in sight.

The Federation of Australian Scientific and Technological Societies (FASTS) has set Wednesday November 24 as the day when 150 scientists and technologists will meet their local Members and Senators at Parliament House.

FASTS' President Professor Peter Cullen said scientists have one clear message to deliver to Parliamentarians: funding for research and development is an investment in Australia's future.

"Science, technology and innovation should be at the centre of the Australian economy," he said. "Research isn't a cost, it's an investment.

"Studies in the USA show how strongly industry depends on public science in developing the next generation of products and processes. Every year in the USA, 180,000 jobs are created as technology is transferred from the laboratory to industry.

"The journal Nature reported a recent economic analysis which suggests that half the fastest growing US companies are 'knowledge companies', selling the knowledge and skills of their employees rather than manufacturing products or providing services.

"Australia's future in a tough world depends on science and technology."

He said politicians needed the best possible advice on science and research, because so few of them had scientific backgrounds.

"Our politicians are former lawyers, economists, teachers, farmers or trade unionists - hardly a scientist among them," he said. "On November 24 we'll be knocking on their doors, with solid examples of how scientific research has benefited the nation."

Professor Cullen said Parliament House would be a labcoat-free zone on November 24.

"Labcoats and words like 'boffin' exist largely in the mind of Hollywood. Scientists and technologists aren't remote academic figures - they are real people, with real solutions to the problems that confront Australia today," he said.

The "Science meets Parliament" Day is based on the Congressional Visits Day in the US. Last year, 200 scientists and engineers from across America made more than 215 visits to House and Senate offices to underscore the long-term importance of S&T to the nation.

The American scientists from research and educational institutions were joined by others from the world of business.

Professor Peter Cullen said that scientists wishing to participate should contact their Society.

He has written to the Speaker and the President of the Senate seeking their advice on how to make the day a success.

Plans included a reception for all Members and Senators and the launch of FASTS' new Policy Document.

Professor Cullen said that he was inviting other bodies with an interest in boosting the presence of scientific research in the Australian economy and environment to join FASTS on the day.

UPDATE ON "SCIENCE MEETS PARLIAMENT" DAY 24 NOVEMBER 1999

One hundred and fourteen MPs and Senators have already signed up to meet a pair of scientists from their electorates on FASTS' "Scientists meets Parliament" Day, on Wednesday November 24.

The list includes Deputy Prime Minister John Anderson, and Ministers Richard Alston, Darryl Williams, Alexander Downer, Judi Moylen, Peter McGauran, John Herron, Tony Abbott and Wilson Tuckey.

Prominent Opposition members include Lindsay Tanner, Duncan Kerr, Martin Ferguson, Simon Crean, Martyn Evans and Cheryl Kernot; with Democrats including Vicki Bourne and Lyn Allison.

The Speaker, the President of the Senate and the Minister for Industry, Science and Resources will host a cocktail reception for all Parliamentarians and participating scientists the evening before.

One hundred scientists have so far registered for the event. They come from all disciplines (with Physics being strongly represented) and all States and Territories.

The scientists will do a crash course on how to influence policy, in the Briefing Day at the National Press Club on Tuesday November 23. Speakers include Senators Stott Despoja and Jeannie Ferris, Martyn Evans MP, Chief Scientist Robin Batterham, and leading Canberra lobbyist David Kindon.

"Science meets Parliament" Day is a wonderful opportunity for scientists to speak directly to the Parliamentarians on the importance of Australian science and technology. This is the first time an event like this has been held in Australia.

FASTS are still taking registrations for the event, and the registration form is below. But there is not much time left!

Several scientists have been disappointed to have their registrations rejected because they are not members of a Society affiliated with FASTS. A list of those Societies is available at: www.usyd.edu.au/fast/

The event has won wide support from the scientific community, with the following groups assisting with sponsorship:

- Australian Academy of Science
- Australian Academy of Technological Sciences and Engineering
- Australian Technology Park
- Australian Vice-Chancellors' Committee
- Australian Water and Wastewater Association
- CRC Association
- CSIRO Staff Association
- National Tertiary Education Union

PARLIAMENT HOUSE A "LAB-COAT FREE ZONE"

On Wednesday morning at 8.45, Parliament House Canberra will be declared a "lab-coat free zone" to a massed audience of 170 scientists and technologists from around Australia.

Scientists will take off their labcoats, before entering Parliament House for meetings with Members and Senators.

Some labcoats will be ritually destroyed by spectacular and scientific means.

It's all part of "Science meets Parliament" Day, when scientists will meet with Parliamentarians to press for a wiser national investment in science and technology.

New FASTS' President Professor Sue Serjeantson will lead the scientists into Parliament.

She said politicians needed the best possible advice on science and research, because so few of them had scientific backgrounds.

"Today we're knocking on their doors, with solid examples of how scientific research has benefited the nation," she said. "But Parliament House will be a labcoat-free zone.

"Labcoats and words like 'boffin' exist largely in the mind of Hollywood. Scientists and technologists aren't remote academic figures - they are real people, with real solutions to the problems that confront Australia today," she said.

A POSTCARD FROM THE FREE MARKET

AN OCCASIONAL SERIES BY TIM DOEG

Sorry, folks but our foreign correspondent went missing recently, last seen in (drunk mind you) New Zealand handing out door prizes.

ANNOUNCEMENTS

THE SECOND AUSTRALIAN ALGAL WORKSHOP ~ DINOFLAGELLATES, BLUE-GREEN ALGAE AND DIATOMS

Workshop Program and Presenters

The Second Australian Algal Workshop will be held from April 17th to April 19th 2000 at the University of Adelaide. The focus of the Inaugural Australian Algal Workshop was Blue-Green Algae and Diatom Taxonomy. For this, the Second Australian Algal Workshop, these two groups will be revisited, combined with an introduction to the taxonomy of Estuarine and Freshwater Dinoflagellates.

Tentative Program

April 17th Gustaaf Hallegraeff
Day 1 **Estuarine and Freshwater Dinoflagellate taxonomy** (including their benthic cyst stages)

April 18th Peter Baker
Day 2 **'A National Protocol for Blue-Green Algae (Cyanoprokaryote) Monitoring'**,
Imaging and Freshwater Algae, Identifying participant's material under 'real world' conditions

Workshop Dinner at 7pm

April 19th Jason Sonneman, Michael Reid and Peter Gell
Day 3 **'Common Stream Diatom Species of Temperate Australia'**

Workshop Venue

University of Adelaide, North Terrace, City - TBA

Further details and Registration form available from:

Marie Illman
marie.illman@adelaide.edu.au
Tel: (08) 83035649
Fax: (08) 8303 3772

or

Dr. Peter Gell
Dept. Geographical & Environmental Studies
The University of Adelaide, SA, 5005, AUSTRALIA.
e-mail: peter.gell@adelaide.edu.au
website: <http://chomsky.arts.adelaide.edu.au/Geogenvst/gell.htm>

12th TAXONOMIC WORKSHOP

8th - 9th FEBRUARY 2000

TRICHOPTERA, EPHEMEROPTERA, ODONATA
MEGALOPTERA, HEMIPTERA, CLADOCERA



GUEST SPEAKERS:

John Dean, John Hawking, Rosalind St Clair,

Gunther Theischinger, Russ Shiel



Workshop Program

TUESDAY 8TH FEBRUARY 2000

- 0900-0915 **Official opening Dr Terry Hillman, Director MDFRC** "Welcome address"
- 0915-1300 **Session 1 & 2. Ros St Clair (EPA, Vic)** Identification of Australian caddisfly larvae of the family Leptoceridae.
- 1400-1530 **Session 3. Gunther Theischinger (EPA, NSW)** The larvae of the Australian gomphids (Odonata: Anisoptera).
- 1600-1700 **Session 4. John Dean (EPA, Vic)** Identification of Australian caddisfly larvae of the families Antipodoceridae, Atriplectididae, Limnephilidae, and Plectrotarsidae.
- 1930 **Evening session. Barbecue at MDFRC**

WEDNESDAY 9TH FEBRUARY 2000

- 0900-1030 **Session 5. Gunther Theischinger (EPA, NSW)** The Australian megalopteran larvae.
- 1100-1300 **Session 6. Ros St Clair (EPA, Vic)** Identification of Australian caddisfly larvae of the families Odontoceridae, Kokiriidae, and Oeconesidae.
- 1400-1430 **Session 7. John Hawking (MDFRC/CRCFE)** Review of the recent taxonomic literature.
- 1430-1700 **Session 8. Russ Shiel (MDFRC/CRCFE)** Identification of Australian cladocerans (Branchiopoda: Anomopoda/Ctenopoda).

VENUE: The Murray Darling Freshwater Research Centre, Ellis Street Thurgoona NSW 2640

COSTS: Registration fee includes lunches, morning and afternoon teas, handouts and Identification Guides. The guides will also be available for purchase by non-attendants.

ACCOMMODATION: Accommodation is the responsibility of the participant. Listed below are motel, hotel and caravan park accommodation near the Centre.

Thurgoona Country Club Motel, Evesham Place, Thurgoona. Phone 02-6043 1666. Single and Twin Share from \$80-98. Within walking distance of the MDFRC laboratory.

Sodens Hotel-Motel, Cnr. Wilson and David Streets, Albury. Phone 02-6021 2400. Motel: Single \$30, Twin \$40. Hotel: Single \$20, Twin \$30. Light breakfast is included in both. Soden's is located in central Albury

Siesta Motel, 416 Wagga Road, Lavington. Phone 02-6025 4555. Single and Twin Share, both \$86. The Siesta is 5km from the MDFRC laboratory.

Trek 31 Tourist Park, Hume Highway, Lavington. Phone 02-6025 4355. Cabin with ensuite, Twin Share \$42-45. Van with ensuite, Twin Share \$38. Van without ensuite, Twin Share \$32. Additional persons can share the accommodation, \$8 per additional person and \$5 per additional child. Park units are available from \$39 a double. Trek 31 is 4km from the MDFRC

CONFERENCE ENQUIRES: Rosie Busuttil (Ph 02-6058 2300) or John Hawking (Ph 02-60582340, hawkingj@mdfrc.canberra.edu.au), MDFRC, PO Box 921, ALBURY NSW 2640, Fax 02-6043 1626

Registration Form

Registration: Please complete this form and forward with payment to the "Taxonomic Workshop Coordinator", C/- MDFRC, PO Box 921, Albury NSW 2640, by **Friday 17th December 1998**. Please make cheques payable to the **Murray Darling Freshwater Research Centre**.

Name : _____

Institution: _____

Postal Address _____

State: _____ Post Code: _____

Email: _____

Phone: _____ Fax: _____

REGISTRATION COSTS

Ordinary Participants		Full Time Students	
Both days \$195		Both days \$ 160	
Day 1 only \$110		Day 1 only \$90	
Day 2 only \$105		Day 2 only \$85	
Evening BBQ \$15		Evening BBQ \$15	

Vegetarians please tick

☐

TOTAL		TOTAL	
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AUSTRALIAN AQUATIC ECOLOGY POST-GRADUATE WORKSHOP 2000

To be held somewhere in the wonderful wilderness of Tasmania, from
Wednesday the 26th to Friday the 28th of April 2000.

An opportunity for post-graduates from all over Australia to discuss
your work with your peers.

For more information contact:

Australian Aquatic Ecology Workshop 2000
c/o School of Zoology, University of Tasmania
GPO Box 252-05 Hobart, Tasmania 7001
Telephone Dirk Welsford on (03) 6226 2507 Fax (03) 6226 2745
or email PGWY2K@hotmail.com

MICROSOFT WATER™

Microsoft, today, releases MS-Water (tm). By cleverly combining hydrogen and oxygen together to form a secret , patented compound, those clever folks over at Microsoft have invented the perfect liquid.

The official Microsoft press announcement stated: 'Since the beginning of time, mankind has dreamed of a world free of thirst. thanks to this new Microsoft innovation, everyone now has access to the solution to this problem.'

Typically, some critics have slammed this new technological breakthrough. One of the more cynical critics stated 'Whats the big deal here ? We have always had access to free water, water was around a long time before Microsoft ever invented it !'.

A Microsoft spokesperson commented on these rebuffs, saying 'It is sad that some people have chosen make such comments. This new product is truly of great benefit to all people, and Microsoft continues to lead the way in developing the products that enrich people's lives.'

Some analysts are concerned over the cloudly brown appearance of MS-Water (tm), saying that it might not be pure water, such as can easily be obtained from rainfalls, rivers and other natural sources. However, provisions in the licensing agreements for MS-Water (tm) strictly prohibit the 'testing, chemical analysis, or comparison with any other liquid, without the written approval of Microsoft', so many of these analysts are afraid to push the point any further.

Thankfully, these industry commentators are greatly in the minority. Most analysts wholeheartedly agree that MS-Water (tm) is a far superior and much needed product. When asked about the claims of the 'free water' lobby, they typically laugh, and say 'There always has to be some clown who gets the wrong end of the stick. MS-Water (tm) is of great benefit to all people, and Microsoft continues to lead the way in developing the products that enrich people's lives.' .

Asked why MS-Water (tm) is better than free water, one industry analyst stated 'This new product is truly of great benefit to all people, and Microsoft continues to lead the way in developing the products that enrich people's lives.'. Yes, we know that, but why should I send off a cheque for \$12 and wait 2 weeks to get a bottle of murky brown liquid, when I can turn on the tap and get clear water for free ? 'Initial pre-product launch surveys (of Microsoft staff) show that 85% of all people interviewed drink MS-Water (tm).' Ok then, go with the strength ? but why pay for it ?

Bill Gates (tm), summed up the argument to a large cheering audience at the latest trade show. 'A lot of people would like to believe in a free lunch, believe in free power, free Operating Systems, perpetual motion machines, and even, hell, free Water !' ... audience laughs loudly and claps approval .. 'But the simple fact is that there is no such thing ! Nothing is really free ... just look at what we did with IE 3.0 , IIS and MS-Java (tm)' ... hushed silence from awed audience ... 'The best we can hope for is cheap Water, and this will only happen when economies of scale and the size of the market allow us to mass-produce MS-Water (tm) in bulk. When it comes to anything - lunch, Operating Systems, Compilers, and yes, even Water, it is a simple case of you get what you pay for.'

ARTICLES

CALL FOR COMMENT FROM ASL MEMBERS ON POLICY DOCUMENT

At the ASL AGM in New Zealand, a further distribution of the ASL "top ten" document was requested to stimulate further comment. Comments are requested by mid-January when we will be deciding how to distribute a first version of the draft.

As outlined in the last Newsletter, the Policy Standing Committee has a term of reference to prepare a document which outlines the "top ten" limnological issues facing Australia (well, we've come up with 7). This is to be issued hopefully in the new year as the first plank in a strategy to raise the profile and influence of the ASL within decision making bodies.

The document (see below) is intended to be stand alone release outlining ASL's main concerns in a national context. It will be released to the press and also circulated to key policy makers on its own initially as a Top 7 Challenges with an ASL marketing splash once it (and a media strategy) is finalised. But it is also an introductory document for an eventual package "aimed at political and policy folk". This will include 3 more detailed 'brochures' on major research issues, politico-socio-economic issues and location issues (expanding on the 7 challenges). The package is therefore not targeted at ASL members but to a wider audience. The end document will have key contacts based on the List of Experts.

Each of the 7 challenges has a title, a short description and a few key "needs", divided into knowledge, techniques and system needs.

Comments or suggestions are invited on any aspect of the document to the listserver, or to members of the Policy Standing Committee (see last newsletter). A further version is to then be published in the next Newsletter to ensure the largest possible opportunity to comment for the largest possible number of ASL members.

Text of Draft Document:

AUSTRALIA'S AQUATIC AND WETLAND RESOURCES: SEVEN CRITICAL CHALLENGES

Prepared by the Australian Society for Limnology (ASL) November 1999

Priority Challenges:

Australia has a poor record of managing and using aquatic and wetland resources. Throughout the country, aquatic habitats such as rivers, swamps and lakes have been degraded and destroyed for short-term unsustainable gain. This short-sighted behaviour has placed the well-being of future generations of Australians in jeopardy.

Australian aquatic habitats and their associated biodiversity have a fundamental right to exist in a healthy state, and to be managed accordingly. In a healthy state, aquatic and wetland resources can also provide many goods and services of great benefit to society that have often gone unheralded (apart from as a simple water supply). These goods and services include:

- Products - fisheries, agricultural; foraging and forest; and wildlife resources.

- Functions - flood control; nutrient, sediment and contaminant retention; shoreline stabilisation and erosion control; stabilisation of local climatic conditions; and food web support.
- Attributes - unique cultural and historical features.

To stop and even reverse the destruction of our natural heritage is the responsibility of all sectors of society. Policy makers, scientists, and the managers and users of wetlands, lakes, streams and other aquatic habitats have a particular obligation to find appropriate solutions that balance the provision of goods and services with ecosystem protection.

This document lists seven critical challenges that require urgent action to stop and reverse the loss and degradation of Australia's aquatic resources and habitats. Local or regional priorities may differ, but at a national level the challenges are clear. We urge you to consider this list and promote effective, coordinated management and research to ensure that our legacy is not one of further loss and degradation of these habitats.

The Australian Society for Limnology: The Australian Society for Limnology (ASL) is an Australian-based scientific society whose focus is the study and management of inland waters. Established in 1961, it has a current membership of over 500 researchers, managers, engineers, teachers and tertiary level students from all states and territories. The charter of the ASL is to further our understanding of Australia's inland waters and to promote their wise use and sustainable management. From this, the society contributes to the continued existence of this valued resource and the maintenance and enhancement of the quality of life for all Australians.

The Seven Critical Challenges

*****The Challenge - Provision of surface and groundwater for environmental benefits**

The Problem - Excessive quantities of water have been diverted from aquatic habitats without regard to the maintenance of the biological features that provide many goods and services to society. Altered flooding and drainage patterns have led to the significant loss of habitats and species.

Key Needs - Knowledge of the ecological responses to variations in flow regimes; Knowledge of the water requirements for aquatic species; Techniques for determining appropriate water allocations; Systems for the inclusion of environmental factors in water allocation decisions.

*****The Challenge - Prevention of pollution and contamination of aquatic habitats**

The Problem - Aquatic habitats are still receiving excessive amounts of nutrients, salt and toxic chemicals from direct and indirect sources in urban, industrial and rural settings.

Key Needs - Knowledge of ecological responses to nutrients and pollutants; Knowledge of pollution pathways in aquatic systems; Techniques for rapid and early warning systems; Techniques for rehabilitation of polluted habitats; Techniques for low-cost treatment methods for waste.

*****The Challenge - Prevention of further drainage and in-filling of wetlands**

The Problem - Drainage and in-filling still continues at an unacceptable rate, and directly leads to the loss of habitats and biodiversity. The disruption of flows and increased flooding leads to lower retention rates of sediments and nutrients.

Key Needs - Techniques for the rehabilitation of degraded habitats; Systems for inclusion of environmental factors in wetland management decisions.

*****The Challenge - Restoration and protection of riparian vegetation**

The Problem - Grazing and agricultural practices have degraded the protective strip of vegetation around wetlands that is essential for healthy ecosystem functioning. This has lead to a reduction of carbon inputs into wetlands, bank compaction and slumping and increased sediment loads.

Key Needs - Knowledge of nutrient and energy budgets; Techniques for the rehabilitation of degraded habitats; Systems for the analysis of grazing pressures.

*****The Challenge - Prevention and control of invasive species**

The Problem - The uncontrolled spread of invasive species has lead to the loss and degradation of habitats and species, the disruption of nutrient and energy pathways, altered fire regimes and increased erosion.

Key Needs - Knowledge of the ecological impacts and information on the biology of invasive species; Techniques for cost effective control; Techniques for rapid assessment; Systems for early warning and prevention of invasions.

*****The Challenge - Mitigation of climate change and sea level rise**

The Problem - Predicted climate changes are likely to lead to significant loss and degradation of habitats and species through rapid changes in water regime.

Key Needs - Knowledge of climate modelling and prediction; Techniques for holistic vulnerability assessments; Techniques for mitigation measures; Systems for improved data holdings; Systems for legislation and incentives.

*****The Challenge - Development of rigorous inventory, assessment and monitoring protocols**

The Problem - The inventory base for many aquatic habitats is poor, and assessment and monitoring programs, data management and dissemination, have often been inadequate to supply sufficient information or make useful predictions.

Key Needs - Knowledge of priority assessments of floodplain and coastal habitats; Techniques for rigorous monitoring designs; Techniques and Systems for standardised procedures for collecting, holding and disseminating information.

ASSESSMENT OF ENVIRONMENTAL FLOWS FOR THE FISH AND DUCKMALOI RIVERS

The Fish and Duckmaloi River system are located in the headwaters of the Macquarie River System Central Western NSW, near Oberon. The flow in the Fish River is altered due to the operation of Oberon Dam and the Duckmaloi Weir. Water is extracted by Fish River Water Supply (FRWS) for the townships of Oberon, Lithgow, Wallerawang and Leura in the Blue Mountains.

Australian Water Technologies (AWT) and Fluvial Systems Pty Ltd have been commissioned by the Department of Land and Water Conservation (DLWC) to undertake an assessment of the environmental flow requirements of these two systems. The study is being conducted from August 1999 to June 2000, and an integrated assessment approach is being undertaken to assess impacts. The hydrology, water quality, ecology and geomorphology of the two river systems are being studied. To date reviews of the available information have been undertaken to assess their usefulness in terms of the project requirements. Field based assessments of the macroinvertebrate communities have been conducted and more field-based studies are planned over the next six months. One of the more interesting components of the study is to also look at the flow requirements of frogs, as there appears to be a rich frog fauna associated with the backwaters of the main river channel of the river above Oberon Dam. It is likely that over-bank discharges are going to be an important factor on frog recruitment.

Environmental flow releases from Oberon Dam are planned for January 2000, and two experiments will be conducted. The first is to assess the effects of release on pool stratification and the second will be undertaken to develop a hydraulic/habitat model to establish the changes in macrohabitats under different discharges.

In May 2000, the data will be compiled and presented to a stakeholder workshop using a modified building block methodology (BBM). The BBM will allow environmental flow objectives compatible with the environmental flow needs for the Fish and Duckmaloi Rivers.

For more information contact

Big Willy Williams, (Alias Simon Williams) AWT – phone (02) 9334 0721

Department of Natural Resources – Burnett Region – Research in Sugar Production Systems

Pesticide Transport in Sugar Production Systems

(Project number NR001
Start Jan 1997, Finish Dec 2000)

Objectives

- To identify the major transport mechanisms within and from canelands of commonly used pesticides.
- Gain an understanding about the relationships between on-farm management and pesticide transport.
- Provide accurate information for management strategies aimed at reducing the movement of pesticides off-farm, and efficient use of chemicals.
- Demonstrate a proactive approach by industry and resource management towards chemical application and its fate in production systems.
- Jointly funded by the SRDC, DNR, BSES and the CRC for sustainable sugar, the project represents a combined industry and government commitment to sustainable sugar production.

Note: The term pesticide refers to any chemical substance used to control a pest species and may include: insecticides, herbicides, fungicides, nematicides, rodenticides and others.



Pre-plant inspection and soils analysis for chemicals

Methods

The principal transport processes to be studied under typical farming operations are:

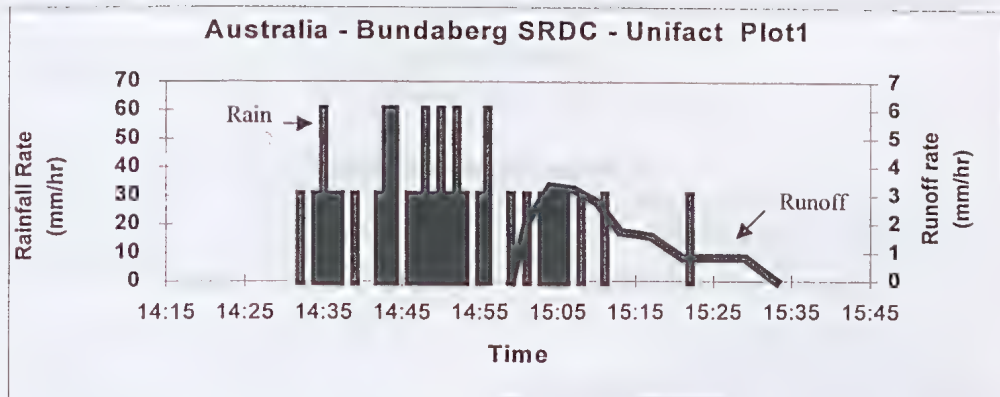
- Dissolved chemical runoff via water sampling and measurement.
- Chemicals adsorbed to soil particles.....via sediment sampling and measurement.
- Leaching of chemicals to subsurface.....via soil profile/leacheate sampling.



Field set-up with runoff diverted to flume

In addition, comprehensive soils sampling and analysis via surface and core samples will provide data on the fate of chemicals within the cane blocks giving information about chemical breakdown and location over time. The research is based on realistic farming practices on working farms with grower cooperation.

- Runoff from blocks is diverted into flumes to measure discharge and allow automatic sampling.
- Digital rain gauges provide total water input from irrigation and rainfall, including intensities.
- Sediment traps collect bedload for quantification and chemical analysis.



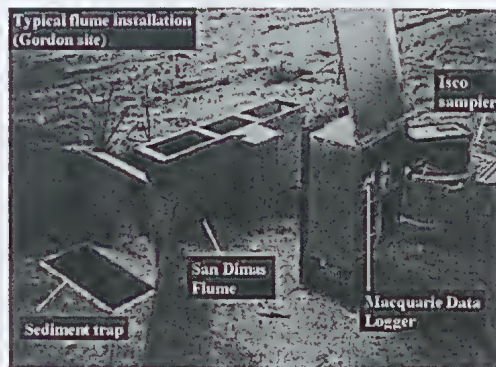
Example of event at UniFact on 12/02/98

Locations

Based around Bundaberg the project involves a number of sites (see locality map below) on selected candeland operations in the Cordalba, Farnsfield, Elliot River and Gin Gin areas.

The sites have been chosen in consultation with BSES to gain an understanding of chemical use and transport on a number of soils types and topographic variability.

NR001 project locality map



**Electronic measuring and sampling gear
Installed in flume at Elliot River site (Gordons)**

Outcomes

Results gained from the project will provide:

- Valuable information for the industry in relation to pesticide application methods
- The fate of chemicals once they have been applied and the amounts available for transport to the environment over time
- The mechanisms which cause movement in and off cane blocks of active chemicals and their degradation products
- This information will allow the industry to be in a position to formulate management practices aimed at efficient and cost effective chemical application for target pests, whilst minimising off farm transport.

Staff Involved (local)

- Mark Sallaway DNR Bundaberg
- Bob Packett DNR Bundaberg
- Cliff Jones BSES Childers

CARP POEMS

(And these were meant to be short, according to the rules – ED)

Feral Fear! (by Paul Humphries)

Last night I had a disturbing dream,
That I was swimming in a stream.
The sun was out, the water clear,
Little chirpings of notonectids I did hear.

I looked around me with a smile
As fishes pass me all the while.
There were cod, golden perch and rainbows too,
Catfish, silvers and gudgeons blue.
Galaxiids, blackfish, little smelt,
It's impossible to describe how good I felt.

I noticed crayfish ambling by,
Scanning for food with their roving eyes.
I cruised quietly through a bay
Watching a school of fish at play,
When suddenly something came in sight,
Which caused the school to flee in fright.

First came some redfin with teeth like knives.
The little fish swam for their lives.
But alas! Their flight was all in vain
As one by one they died in pain.

The ones I thought might yet without
Were cornered by some rainbow trout.
The trout weren't hungry, not today,
But they warned the natives not to stay.

Then came the stench of turbid water
And around a bend in the river
Came a herd of carp with lips aquiver
Before too long, up to their gills in mud
They'd stirred up a thousand years of crud.

I'd had enough, I had to stop it,
I found their leader and said, 'Hop it!
'Listen sport, you've had your fun,
'Now go back to where you belong.'

He looked up from grovelling in the dirt
And gave me the cruellest smirk.
'Oi you!' he said, 'You talking to me?
'I've never heard such hypocrisy.
'We liked our home, we didn't hate it.
'We never asked to be translocated.

'You've stuffed the rivers, it wasn't us!
'And now you're the ones making the fuss!

'Nobody wants you here!' I said,
Just go and be exotic somewhere else instead.'
'That's not true, and here's the hitch.
'We're making lots of people rich.
'You won't get rid of us for certain
'I'm afraid that for native fish, it's curtains.'

I'd thought my logic was well founded,
But found myself completely surrounded.
'I won't give up, I never will!'
As they moved in for the kill.
'But wait!' I cried, with my hand up high,
They stopped to listen and ask me why.

I said, 'Now listen carp, let's get real,
'It's time that we did a deal.
'One thing we've learned in all these years,
'Ferals plus natives always ends in tears.
'I propose we establish a feral state,
'Where all you ferals can procreate.

'It's a lovely place with lots of water,
'You'll love it there, at least you oughta.
'There's lofty mountains and rivers galore,
'And bed and breakfasts and much, much more.

'Of course, compared with this it's a little rainier
'But I'm sure that you'll just love Tasmania!
'No one will bother you, I give my word.
'Of poison and viruses, it's the last you've heard.'

They huddled together for quite a spell,
And I was hopeful things were going well.
Then their leader approached me with a grin
And extended one pectoral fin.
'You've got a deal, we'll be off!' he said.
'But if you cross us, mate, you're as good as dead''

Then the carp, goldfish, redfin, trout,
Gambusia and weather loach all turned about
And headed south in single file.
Destination? Apple Isle!

I clapped my hands; I'd got my wish,
Our streams were free from feral fish.
But a greater hurdle now was loomin'.
How to get rid of FERAL HUMANS!?

THE PROBLEM IS CARP (by Andrew Sanger)

In rivers of old
(which weren't quite so cold)
a snag was a thing to adore

For a cod in the know
Could get out of the flow
In a deep hole just out from the shore

He could lie there all day
And at night go and prey
On yabbies and shrimp by the dozen

And he'd grow and mature
Just making sure
To defend his old snag from his cousins

When the time came to mate
Up the Kiewa he'd migrate
To date that pretty young thing from Mt Beauty

Then he'd shag 'er, and swagger
Right back to his snag
After doing his egg rearing duty

And he'd grow old, carefree,
Living under his tree
Year after year as a winner

'Til along came a big drought
that'd sort him right out
to become a young Murray cray's dinner

Now, we want to know why
People fish with a fly
When a set line was our father's gear

But as the millenium dawns
Cod no longer spawn
Up the Kiewa or anywhere near

Sec, the waters too cold,
The dams so big to behold
Let the rivers run full every summer

The snags are removed
Unwanted, unloved
Cause they might cause a flood _ what a bummer

Cattle congregate,
Urinate, defecate

Then trample the banks as they're going

And their nutrient hit
Of mud, piss and shit
Blooms blue-green when the river stops flowing

When the pumps are turned on
The small floods are gone
Into dams, to later grow cotton

When we say 'nuff's enough'
Cockies splutter and cough
And say 'Bloody greenies - its not on'

Other problems exist
There's lots that I've missed
But the message is writ fairly plain

The natives are gone
The river forlorn
We've used it, abused it - insane

And yet, when we gather
To argue and blather
About causes of native decline

We all seem to harp
'THE PROBLEM IS CARP'

A scapegoat? Your call not mine.

MARINE AND FRESHWATER RESEARCH

50TH YEAR

In 1948, CSIRO, then known as the Council for Scientific and Industrial Research, launched a single periodical, the *Australian Journal of Scientific Research* (now ceased), to be published in two series, covering papers relating to physical sciences and biological sciences, respectively. However, 1950 saw the creation of the *Australian Journal of Marine and Freshwater Research* (AJMFR), the *Australian Journal of Agricultural Research* and the *Australian Journal of Applied Science* (now ceased) to provide subscribers with periodicals with a stronger focus on a specialized area of interest. In subsequent years, further scientific research journals were launched by CSIRO, to bring the present total to thirteen. In 1996, CSIRO Publishing was created as a business section financially independent of CSIRO itself, and the journals have been required to become self supporting.

Initially, AJMFR was not published at set intervals but was issued whenever suitable material accumulated. Its first year saw the publication of two issues with a total of 270 pages; the eleven papers were the work of five authors and co-authors in all, four of them from CSIRO's Division of Fisheries and one from the University of Adelaide.

By 1960 AJMFR was being published, still by CSIRO, under the auspices of the Australian Academy of Science. Authors were drawn from New Zealand as well as from many organizations in Australia; this happy association between AJMFR and New Zealand has continued to the present day, and two members of the journal's present central Advisory Committee are in New Zealand.

By 1970, the subject scope of AJMFR had broadened from 'results of original investigations on sea, estuarine, and freshwater fisheries and cognate subjects', and now encompassed 'results of original investigations in marine and freshwater research including oceanography'. The journal maintains its broad scope, finding value in the cross fertilization between disciplines that this encourages.

By 1980, publication was regular, with 6 issues per year; this has since increased to eight issues per year.

By 1990, AJMFR had published several special single-theme issues, a feature that has continued to the present day. Topics have included 'Age determination and growth in aquatic animals', 'Tropical seagrass ecosystems', 'Cyanobacteria', 'Plants and processes in wetlands', 'Interactions between sediments and water', 'Larval fish biology', and the Port Phillip Bay Environmental Study. All papers in these special issues are subject to the journal's normal reviewing process and are accepted only if they reach normal journal standards. The maintenance of these standards depends on the expertise of reviewers worldwide, and these number some 350–400 per year. The gift of their time and effort to contribute to the peer review system is much appreciated.

In 1995, the name of the journal was changed to *Marine and Freshwater Research* (MFR). This marked the growing number of submitted papers that originated from outside the Australasian region. Papers from all parts of the world are considered for publication in MFR provided that the material is of more than merely local interest. Papers are now submitted from some 30 different countries, for both general and single-theme issues. This can on occasions allow an interesting focus on the Southern Hemisphere; for example, a recent special issue on sharks included information on shark biology and fisheries mainly (although not exclusively) from South America, South Africa, New Zealand and Australia. Similarities and contrasts among regions of Gondwanan

origin will be a continuing interest. The extension of *MFR*'s coverage reflects the fact that more than 80% of the journal's subscribers are outside Australia; now that the journal has to be self supporting, the source of its revenue influences the geographical coverage of its contents. This was reflected by the establishment in 1998 of an international Advisory Panel in addition to the central Advisory Committee; the eight members of the Panel are based in Canada, Chile, Hong Kong, Italy, Japan, South Africa, Taiwan and the USA. The help of these two groups of respected people is most valuable.

Electronic communication is becoming standard in publishing. Until the mid 1990s, papers for *AJMFR*, including complex tables, were all retyped by the typesetters working from typescripts on which editorial changes had been made in ink. Now, after review and acceptance, all *MFR* papers are received on disk from their authors. Editorial changes and comments are added to the electronic file, and use of the electronic tracking mechanism allows a dialogue between the author and the editor to be conducted by email before the paper is finally typeset. Since 1998, abstracts of papers published in *MFR* have been available on the journal's Web pages. Members of an email list receive early notification of the contents of each forthcoming issue. From 1999, *MFR* issues have been published fully on the Internet as well as in paper form; the electronic version is accessible for perusal and printing upon payment of a subscription. Progress in electronic publishing is rapid, and a good way to keep up to date with developments in this aspect of *MFR* is to consult the journal's Website on

<http://www.publish.csiro.au/journals/mfr>

The journal's 50th year was introduced with a specially reduced personal subscription rate for members of Australian and New Zealand aquatic societies, including ASL, for 1999. The year has closed with the publication of a special '50th Anniversary issue' comprising reviews and viewpoint articles; this issue was on display at the recent NZLS/ASL conference, and the abstracts of the individual articles may be viewed on the journal's Website.

We hope you will read the journal's pages, whether on paper or on screen. If you have comments, suggestions or enquiries, please contact

The Editor
Marine and Freshwater Research
PO Box 1139
Collingwood
Vic. 3066
Australia
facsimile: +61 3 9662 7611
email: ann.grant@publish.csiro.au

I'VE BEEN TO....

WAIRAKEI: A CONFERENCE

Being an informal recollection of the first joint ASL/NZSL conference, somewhat coloured by my two weeks of excellent holidaying in New Zealand beforehand.

I gather there were over 300 limnos attending, about 130-odd from Australia. The organisation mostly went very well, and Ian Boothroyd said he would be happy to help organise the next joint conference if he gets some local assistance (the man is a legend!!!). Most Australians managed to avoid referring to rugby, netball, cricket or soccer (sometimes very obviously), which generally promoted cross-Tasman friendship.

Wairakei Resort was rather upmarket and the facilities were pretty good. They fed us well, although I have not had satay with kumara (sweet potato) chips before.

There were so many presentations that they had four parallel sessions, after the first plenary session on Monday morning. The rooms were adjacent, which made ducking from session to session easy, although the rooms were interestingly ordered (I seem to recall that they were A, D, C and B from left to right, and no-one offered a satisfactory explanation of this). There were also a good number of posters, located in the night club, although the sound system and mirror ball were not in operation at the time.

In the plenary sessions, Ann Chapman, a pioneer limno in both Australia and New Zealand, gave us a history of the societies and her travels with Hilary Jolly (question – what was Hilary's first name? answer - keep reading). Then Russ Shiel gave us the Hilary Jolly Lecture, as the latest recipient of the ASL Medal. He talked (harangued us?) about how little excuse we have for continuing to ignore microfauna. We then heard from Bill Mitsch (from Ohio State University) about wetland diversity and restoration. The final plenary was from Denise Church, the CEO of the Ministry for Environment, originally a limno by training. This may have explained why her talk actually said something intelligible (a rarity from politicians and public servants, in my experience).

In the parallel sessions (the rest of Monday, all day Tuesday, early morning Wednesday before the excursions, and most of Thursday), a number of themes were explored. There were more fish talks than usual, apparently because NZ lacks a fish biology society and NZSL is their main forum. This was a good thing, as it gave even more variety. Most sessions combined talks from New Zealanders and Australians, to try and avoid stratification by nationality – this worked to some extent.

As I am not a researcher (the term, given by Denise Church, is 'policy wonk'), I swapped sessions pretty freely. Highlights of the talks I went to are:-

- John Gooderham's art of developing environmental flows – Surreal, Cubist, and Pop.
- Tim Doeg's Cascading Seasonal Flows.
- Lots of testing of different macroinvertebrate sampling, levels of taxonomic resolution and trialing in NZ.
- Pierre Horwitz describing a flat landscape as 'topographically suppressed'.

- Mark Lintermans reminding us that 'Mackers' means Macquarie Perch.
- Lots of very fancy Powerpoint presentations (some were a bit slow to load at first, and probably gave presenters a bit of a nasty turn) and dinky multi-dimensional analyses (most remembered to explain what it meant biologically!).

If you want a serious analysis of the science, don't ask me – generally I thought the talks were, on average, pretty good. Quite a number of students gave excellent presentations.

I went on the geothermal excursion on Wednesday, which was colourful (the water, that is) and varied. You could say the same about the conference dinner, which followed it.

All in all, it was very good. See you at the next one!

[Hilary Jolly's first name was Violet, she was called Vi, but didn't think this was professional enough when she had to talk to water engineers.]

from Gillian Dunkerley

CONFERENCE CAPERS

January 16-23, 2000IXth Int. Symposium on Rotifera: Khon Kaen, Thailand,. Contact Laorsri Sanoamuang at the Univ. of Khon Kaen. Email: La_orsri@kku.ac.th

January 31-February 2, 2000, Water Reuse 2000, Hyatt Regency San Antonio, Texas USA. Enquires: Lynda Pumphrey, AWWA, 6666 West Quincy Avenue Denver, Colorado, 80235, Ph: 303 347 6203 Fax 303 795 1440

February 1-5, 2000 - Species 2000: New Zealand (millenial symposium to inventory all NZ biota). Museum of NZ, Wellington. Contact Dennis Gordon at NIWA. Email: d.gordon@niwa.cri.nz

April 9-13, 2000 – Odour, How much is too much. Four conferences in one: Australian Greenhouse Conference, 5th Australian Waste Convention, Odour Conference and WaterTECH Conference. Sydney, contact Clean Air Society of Australia and New Zealand, casanz@ozemail.com.au

July 3-7, 2000 - New trends in water and environmental engineering for safety and life: Eco-compatible solutions for aquatic environments, Capri, Italy. Contact Terr@A. Dept. IAR, Hydraulic Div. Politecnico di Milano, Piazza L. da Vinci 32, 20133 MILANO (ITALY), Fax +39 02 23996298, Ph. +39 02 23996293, E-mail:terra@marina.iar.polimi.it

July 12-14, 2000, 4th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences. Inquires B.M. Gerard, Heuvelink, Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam, Nieuwe Prinsengracht 130, 1018 VZ Amsterdam, The Netherlands, email accuray@frw.ava.nl. www: <http://www.gis.wua.nl/Accuracy20000>.

25 August - 1 September, 2000 - International Diatom Symposium. Greece, registration forms at www.uoa.gr/IDS2000. A limited number of cabins have been reserved on the cruise (and also in the Congress hotel) and there is already a waiting list of other travellers. To secure cabins, please, effect a remittance of 300 US\$ (non refundable) per person till January 25, 2000 to: CITYBANK NA, Kolonaki Branch, Athens-Greece, Post code 10676, Athena Amilli-IDS 2000- Account Number 5504128069. Fax, please, a copy of receipt to 0030-1-7274325. After the end of January we cannot guarantee participation in the cruise (or accommodation in the congress hotel). The remaining expenses for hotel and cruise accommodation can be paid at the latest till May 1, 2000. Although every effort will be done to satisfy each delegate's accommodation request, assignment of cabins will be done on a 'first-come-first-served' basis at the appropriate cost.

4- 8 December, 2000. Molluscs 2000 – Understanding Molluscan Diversity in our Region into the 21st Century. University of Sydney, Sydney. Contact Winston Ponder, Dept of Malacology, Australian Museum, 6 College St, Sydney, 2000 www: <http://www.austmus.gov.au/science/division/invert/mal/malsoc/confer3.htm>

FURTHER IN THE FUTURE

28th International Association of Theoretical and Applied Limnology (SIL):
February 2001, Melbourne, Australia

Symposium on the Role of Drought in Aquatic Ecosystems: Albury, Australia. February 2001. If you would like to receive more information on the symposium, please send your contact details, area of expertise and whether or not you would like to present a paper or poster, to:-

The Organising Committee

Symposium on the Role of Drought in Aquatic Ecosystems

Murray-Darling Freshwater Research Centre and,

The CRC for Freshwater Ecology

PO Box 921

Albury, NSW Australia 2640. or e-mail: hump@mdfrc.canberra.edu.au (please include the word 'Symposium' in the subject heading).

9th International Congress on Invertebrate Reproduction and Development: Rhodes 15-20 July 2001 University, Grahamstown, South Africa. Inquires Alan Hodgson, Rhodes University 6140 South Africa ph (+46) 6038526 fax (+46) 6224377.

29th International Association of Theoretical and Applied Limnology (SIL):
August, 2004. Helsinki, Finland.

ASL MEMBER PUBLICATIONS

- Bayly, I.A.E.** (1997) Primitive crustaceans: shield, fairy and clam shrimps. In: *Windows on Meteorology: Australian Perspective*. (Ed: Webb, E.K.) CSIRO, Melbourne: 67-72. <501 Killiekrankie Rd, Killiekrankie, Tas. 7255
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ASL VOLUNTEERS

The following people have volunteered to speak as experts on behalf of the ASL. If you wish to be included on the list contact:

Dr Richard Marchant (ASL Secretary)
Email: rmarch@pioneer.mov.vic.gov.au

The following members are prepared to speak on behalf of the ASL on their area of expertise.

Name	Area of Expertise	Contact Details
Prof A. Arthington	in stream flows, ecology of exotic fishes, conservation of rare fishes.	Centre for Catchment & Instream Res, Griffith University, Nathan Qld. 4111. Phone (07)275 7403 , Fax: (07)277 3759
Dr P. Boon	Bacteriological issues, wetlands.	Environmental Management, Victoria University of Tech., PO Box 14428 MMC, Vic. 3000. Phone (03)9365 2214, Fax (03) 9365 2465. email: paul.boon@vut.edu.au
Dr A. Boulton	Intermittent streams, hyporheic zones, Flinders Ranges	Ecosystem Management, University of New England, Armidale, NSW 2351. Phone (02) 67733760, Fax (02) 67732 769 email: aboulton@metz.une.edu.au
Dr M. Brock	temporary wetlands, aquatic plants	Botany Department, University of New England, Armidale NSW 2351. Phone (02)67732 578, Fax (02)67733 283 email: mbrock@metz.une.edu.au
Dr S. Bunn	stream ecology, ecology of riparian zones, biomonitoring	Faculty of Environmental Sciences, Griffith University, Nathan, Qld 4111. Phone (07)8757 407, Fax (07)875 7459, email: s.bunn@ens.gu.edu.au
Dr T. Entwisle	taxonomy and ecology of freshwater macroalgae	Royal Botanic Gardens, Mrs Macquaries Road Sydney NSW 2000 phone 02 9231 8113, fax 02 9251 4403 email tim_entwisle@rbgsyd.gov.au
Dr M. Finlayson	wetlands, Ramsar convention	Alligator Rivers Region, Office of Supervising Sci, Post Office, Jabiru, NT 0886 Phone (08) 89799756, Fax (08) 89792149 email: maxf@eriss.crin.gov.au
Dr T. Grant	platypus biology	Biological Science, University of NSW, PO Box 502, Cronulla, NSW 2230
K. Horte	impact of mining, impact of development in Se Asia and PNG on rivers	Environmental Management, 18 Sharrow Road, Mitcham, Vic. 3132 Phone and Fax: (03) 9872 4101

Dr P. Horwitz	Conservation of freshwater invertebrates	Dept of Science, Edith Cowan University, Joondalup Drive, Joondalup, WA 6027. Phone (08) 94055717, Fax: (08) 9300 1257 email: phorwitz@cowan.edu.au
Dr P. Humphries	fish ecology, in-stream flows	CRC Freshwater Ecology, MDFRC, PO Box 921, NSW 2640. Phone (02)6043 1002, Fax:(02)6043 1626 email: hump@watson.canberra.edu.au
Dr G. Jones	Cyanobacterial blooms	Phone: 07-3896 9516, Fax: 07-3896 9525 email:gary.jones@dnr.qld.gov.au
Dr P.S. Lake	stream ecology, conservation freshwater biota	Ecology & Evolutionary Biology, Monash University, Wellington Road, Clayton, Vic. 3168. Phone (03)9055 653, Fax:(03)9055613 email:p.s.lake@sci.monash.edu.au
Dr V. Matveev	plankton food webs, biomanipulation	MDFRC, PO Box 521, Albury, NSW 2640. Phone: (060) 431002, Fax: (060) 431626.
Dr R. Pearson	tropical freshwater ecology	Zoology Dept. ACTFR, James Cook, University, Townsville, Qld. 4811. Phone:(077) 814 262, Fax: (077)79 6371
Dr W. Ponder	freshwater molluscs	Malacology, Australian Museum, 6 College Street, SYDNEY 2000 Ph: (02) 9320 6120 Fax (02) 9320 6050 Email:winstonp@amsg.austmus.gov.au
J. Puckridge	ecology of arid zone rivers, ecology of freshwater fish	CRCFE, Zoology Department, University of Adelaide, Adelaide, SA 5005. Phone (08) 83034455. Fax: (08) 8303 4364 email:jpuckrid@zoology.adelaide.edu.au
Dr N. Rea	wetland plant ecology, water regime, weeds and conservation	Water Quality Branch, Department Lands, Planning and Environment PO Box 567 Palmerston NT 0831 Phone (08) 8924 6403, Fax: (08) 8924 6410, email: naomi.rea@nt.gov.au
Dr R. Shiel	planktonic & littoral microfauna, billabong ecology.	MDFRC, PO Box 921, NSW, 2640. Phone (02)60431002, Fax: (02)60431626 shielr@mdfrc.canberra.edu.au
Dr L. Townley	groundwater-surface water interaction.	CSIRO Division of Water Resources, Private Bag, Wembley, WA 6014 Phone (08) 9387 0329, Fax: (08) 93878211
Prof. W.D. Williams	Salt lakes	Zoology Dept, University Adelaide, Adelaide SA 5005. Phone (08) 8303 4455, Fax: (08) 83034364

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REGIONAL EXECUTIVE MEMBERS 1999-2000

- NSW Ms Deb Nias
Dept Land and Water Conservation, PO Box 380, Dareton NSW 2717
ph: 03-50274303, fax: 03-50274769; email: dnias@dlwc.nsw.gov.au
- Qld Dr Gary Jones
CSIRO Land & Water, Sciences Centre, 80 Meiers Rd., Indooroopilly, Qld 4068
Ph: 07-3896-9516 Fax: 07-3896-9525
Email: gary.jones@dnr.qld.gov.au
- SA Ms Kerri Muller
Botany Dept, University of Adelaide, SA 5005
Ph: 08-8303 4560 Fax: 08-8232 3297
Email: kmuller@botany.adelaide.edu.au
- WA Dr Jenny Davis
School of Environmental Sciences, Murdoch University, Murdoch WA 6150
Ph: 08-9360 2939 Fax: 08-9310 4997
Email: davis@essun1.murdoch.edu.au
- ACT Dr Ralph Ogden
Dept. of Applied Science, University of Canberra, PO Box 1, Belconnen ACT 2616
Ph: 02-6201 2033
Email: ogden@science.canberra.edu.au
- NT Ms Ruth O'Connor
School of Biological Sciences, Northern Territory University, Darwin NT 0909
Ph 08-8946 6761 Fax 08-8946 6847
Email: r_oconnor@banks.ntu.edu.au
- VIC Ms Rhonda Butcher
Dept. Ecology & Evolutionary Biology, Monash University, Clayton, VIC 3168
Ph: 03- 9905 5643 Fax: 03-9905 5613
Email: rhonda.butcher@sci.monash.edu.au
- Tas Dr Jean Jackson
118 Wentworth Street, South Hobart, Tas 7004
Ph: 03-62237133 Fax: 03-62237133
Email: jeanj@ifc.tas.gov.au

EDITORIAL ADDRESS

Ivor Growns, P.O. Box 1357, Albury, NSW 2640
ph (02) 60583878 fax (02) 60583888
email igrowns@awcnet.aw.latrobe.edu.au or Ivor_Growns@awtpl.com.au



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Dr R. Marchant
Invertebrate Survey
Museum of Victoria
71 Victoria Cres
Abbotsford
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